

## SEVERE LOCAL STORMS, JANUARY, 1928

[The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A more complete statement will appear in the Annual Report of the Chief of Bureau]

Place	Date	Time	Width of path (yards)	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority
West slope of Cascades and along Columbia River, Wash.	1-2					Glaze	Communication and power transmission wires damaged; trees broken.	Official, U. S. Weather Bureau.
Helena, Mont.	11-12					High wind	Considerable damage to windows, light globes, etc.; roofs of several buildings torn off or ripped loose.	Do.
Cincinnati, Ohio and vicinity. <sup>1</sup>	19	7:07 a. m.	160		\$100,000	Tornadic wind	Extensive property damage; 18 persons injured.	Do.
Louisville, Ky. <sup>1</sup>	19	7:20-7:40 a. m.	50		\$94,000	Tornado	Damage confined to roofs, windows, and upper stories of buildings; a few buildings totally demolished; 18 persons injured; path 16 miles long.	Do.
Peno, Okla.	19	11:25 p. m.				Small tornado	2 residences wrecked; large seed house damaged.	Southwest American (Fort Smith, Ark.).
Chattanooga, Tenn.	19	10 a. m.				Wind and rain	Trees, autos, wires, etc., damaged.	Official, U. S. Weather Bureau.
Fern Creek to Jefferson-town, Ky.	19				(?)	Tornado	Property damage reported over path 4 miles long.	Do.
De Kalb, Kane, Du Page, and Cook Counties, Ill.	19-20					Wind	Rail and car service interrupted at points; trees, poles, and wires blown down; light farm buildings demolished; light service impaired.	Do.
Fond du Lac and Sheboygan Counties, Wis.	19-20				10,000	do.	Character of damage not reported.	Do.
Fort Wayne, Ind.	19-20				2,000	do.	Windows, telephone, and power lines damaged.	Do.
Grand Haven, Mich.	19-20					Wind and ice	Navigation tied up; school building partially unroofed; public utilities services interrupted.	Do.
Chattanooga, Tenn.	24	1 p. m.			10,000	Wind and thunderstorm.	Old buildings, barns, etc., damaged; industrial plants suffer.	Do.
Cairo, Ill., and adjoining area of Kentucky.	24			1	10,000	Wind	Plate-glass windows, telephone lines, and roofs damaged; 1 person injured.	Do.
Chester, Rock Hill, and Columbia, S. C.	24	P. m.			8,000	Thunderstorm and wind.	Buildings and trees considerably damaged.	Do.
Missouri (southeastern)	24					Wind	A number of dwellings damaged; trees broken; 5 persons injured.	Do.
Atlantic coast, New Jersey to Maine.	25				1,000,000	do.	All forms of traffic and transportation interrupted; extensive damage to plate glass in New York City.	Evening World (New York City, N. Y.).

<sup>1</sup> For detailed description see p. 15 of this REVIEW.

<sup>2</sup> Figures of Louisville item include damage and injured at Fern Creek, Ky.

## RIVERS AND FLOODS

By H. C. FRANKENFIELD

An ice gorge that formed in the Connecticut River at South Glastonbury, Conn., about January 6, caused a rather rapid rise in the river northward to Hartford, where a crest of 12.9 feet was reached at noon of January 8. Advances were issued on January 7, and on the following day the ice passed out without resulting damage.

There were no floods over the Atlantic drainage during the month, nor over the east Gulf drainage except a moderate one in the lower Tombigbee River of Alabama during the early days of the month. Warnings were first issued on January 1, and at 2:30 p. m. of January 5 the river at Lock No. 4, Demopolis, Ala., reached a stage of 43.4 feet, or 4.4 feet above the flood stage. The Black Warrior River crest was slightly below the flood stage. Only a very small area of the lowest bottoms near Demopolis was flooded, and losses were \$3,900, with reported savings through warnings of \$15,500.

Moderate local floods in the middle and lower Wabash River resulted from the rains of January 18, 19, and 24. Warnings were issued as required, and no damage was reported.

The Illinois River remained moderately high during the month, and the alluvial river was somewhat above flood stage throughout the month except at Peoria and Pearl, Ill. Only reassuring advices were necessary, and there was no damage.

In the lower Missouri River and the St. Louis section of the Mississippi River ice movements during the first half of the month created an interesting situation. Regarding this Mr. M. W. Hayes, of the Weather Bureau office at St. Louis, commented as follows:

In the lower Missouri and the Mississippi ice movement was of great interest. Heavy floating ice began on the 1st, and by the morning of the 4th a gorge had formed at Salt Lake Towhead, 43 miles south of St. Louis. Other gorges formed, which resulted in the river at St. Louis rising from 9 feet on the 3d to 21.6 feet on the 7th. Gorges between St. Louis and Salt Lake Towhead moved slightly and caused fluctuations in the St. Louis stage on the 8th, 9th, and 10th. The gorge at Salt Lake Towhead, and the others, began breaking up on the 10th, causing a rapid fall of 9.7 feet in the 48 hours ending at 7 a. m. of the 12th. The St. Louis Harbor was clear of ice on the 15th. Every effort was made to collect ice information for the benefit of bridge construction contractors on the lower Missouri and the Mississippi, and for managers of floating property. The efforts were reasonably successful.

The newly repaired Port Barre South Levee, west of the Atchafalaya River in the State of Louisiana, was breached about 2 miles south of Henderson, La., on December 21, 1927, and during the early days of January, 1928, gave way at several other near-by places. Seventeen farms were flooded and 70 partly flooded—about 2,000 acres in all. Movable property was not damaged, but Red Cross relief measures were extended to 33 families.

Unusually mild temperatures over the State of Montana during the first half of January caused a general and rapid reduction in snow cover, and also the breaking up of the ice on the Yellowstone River. On January 18 warnings were issued from the district center at Bismarck, N. Dak., to prepare for a 6-foot rise in the Missouri River at that place and decided rises at all points below. The rises occurred as forecast, and only more favorable weather prevented more serious conditions. At Glendive, Mont., on the Yellowstone River, the river, on January 14, reached a stage of 23.3 feet, or 6.3 feet above the flood stage, and some lands in the lower portion of the city were inundated.

Ice also broke in Milk River of Montana. Several gorges formed in the vicinity of Havre and there was some local flooding. West of the mountains rains, melting snows, and ice caused several floods in the smaller streams of northern Idaho, Washington, and Oregon, and there was much flooding of lowlands as well as serious interruption of railroad and highway traffic.

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
<i>East Gulf drainage</i>					
Tombigbee: Lock No. 4, Demopolis, Ala.	<i>Feet</i> 39	2	8	<i>Feet</i> 43.4	Jan. 5.
Pearl: Jackson, Miss.	20	(1)	12	24.2	Jan. 7.
West Pearl: Pearl River, La.	13	3	11	14.1	Jan. 5, 6.
<i>Mississippi drainage</i>					
Tuscarawas: Gnadenhutten, Ohio.	9	1	2	10.7	Jan. 1.
Wabash:					
Lafayette, Ind.	11	20	21	12.6	Jan. 21.
Covington, Ind.	16	21	21	16.1	Jan. 21.
Tippecanoe: Norway, Ind.	6	5	17	6.5	Jan. 11, 12.
		19	20	6.3	Jan. 20.
		25	26	6.0	Jan. 26.
<i>Illinois:</i>					
Morris, Ill.	13	5	7	13.7	Jan. 6.
Peru, Ill.	14	(1)	(1)	20.0	Dec. 18-19.
Henry, Ill.	10	(1)	(1)	14.4	Dec. 17-18.
Peoria, Ill.	18	(1)	2	20.9	Dec. 18-20.
Havana, Ill.	14	(1)	(1)	18.1	Dec. 19.
Beardstown, Ill.	14	(1)	(1)	19.3	Dec. 16-18.
Pearl, Ill.	12	(1)	5	15.8	Dec. 20.
		14	29	13.0	Jan. 19, 22.
Petit Jean: Danville, Ark.	20	19	21	21.8	Jan. 20.
Black:					
Corning, Ark.	11	1	1	11.0	Jan. 1.
		21	30	11.7	Jan. 25.
Black Rock, Ark.	14	(1)	1	25.3	Dec. 15.
Cache: Patterson, Ark.	9	25	28	9.6	Jan. 27.
<i>West Gulf drainage</i>					
Trinity: Trinidad, Tex.	28	1	4	29.1	Jan. 2, 3.
<i>Pacific drainage</i>					
Willamette: Harrisburg, Oreg.	7	2	8	9.5	Jan. 2.
		14	15	9.9	Jan. 14.

1 Continued from last month.  
 2 Ice reading.  
 3 Continued at end of month.

### MEAN LAKE LEVELS DURING JANUARY, 1928

By UNITED STATES LAKE SURVEY

[Detroit, Mich., February 3, 1928]

The following data are reported in the Notice to Mariners of the above date:

Data	Lakes <sup>1</sup>			
	Superior	Michigan and Huron	Erie	Ontario
Mean level during January, 1928:				
Above mean sea level at New York.....	Feet 602.18	Feet 578.72	Feet 571.26	Feet 246.04
Above or below—				
Mean stage of December, 1927.....	-0.14	-0.06	-0.35	+0.39
Mean stage of January, 1927.....	+0.74	+0.52	+0.15	+0.76
Average stage for January, last 10 years.....	+0.57	-0.50	-0.04	+0.96
Highest recorded January stage.....	-0.60	-3.95	-2.29	-1.56
Lowest recorded January stage.....	+1.73	+1.34	+1.22	+2.24
Average departure (since 1860) of the January level from the December level.....	-0.25	-0.11	-0.07	-0.02

<sup>1</sup> Lake St. Clair's level: In January, 1928, 574.04 feet.

### EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS, JANUARY, 1928

By J. B. KINCER

*General summary.*—The outstanding features of the weather for January, 1928, as affecting farming operations, and particularly winter crops, were the cold wave of unusual severity which overspread the Southeast at the beginning of the month, and the persistent drought in the Southwest, extending from western Nebraska and eastern Colorado southward. The cold wave caused heavy damage to winter truck crops in coast sections from Texas to southeastern Virginia, with all but the hardier varieties killed in the extreme Southeast, except in limited areas. Citrus fruits were also damaged considerably, although old groves escaped serious harm, as a rule. In the Southwest very little precipitation occurred, and winter grain crops were badly in need of moisture over a considerable area.

Following the freeze in the South, showers and much warmer weather were favorable in reviving hardy truck that had been previously damaged, and the mild, open weather permitted active field operations throughout the second decade. In the interior States, however, continued absence of snow cover was unfavorable for grass and grain crops in many sections. The last decade had generally warm weather for the season over the western half of the country and low temperatures in the East, and outdoor operations made better advance in the former, and less progress in the latter districts. The sharp freeze the latter part of the period in Southeastern States did no great amount of harm, except along the southeast Florida coast where some crops, particularly tomatoes, were damaged or killed.

*Small grains.*—Early in the month unseasonably warm weather in the interior States removed the snow cover from important grain areas and left fields generally bare over the principal wheat-producing sections east of the Rocky Mountains. Thereafter, there was but little snow protection, and the rather frequent alternate thawing and freezing were unfavorable for the wheat crop over the eastern half of the belt. In the western portion conditions were more favorable, aside from the need of moisture in parts of the upper Mississippi Valley, in Nebraska, and from western Kansas southward. In the lower Missouri Valley, including eastern Kansas, the moisture from melting snows was favorable and winter grains continued in apparently good condition in most districts. In the far Northwestern States, including Montana, Idaho, Oregon, and Washington, conditions continued generally favorable for winter grains, with fields mostly well protected by snow. In the South, winter oats suffered severely from the freeze early in the month, and reports thereafter were generally unfavorable.

*Miscellaneous crops.*—In the Ohio Valley, the absence of snow, with alternate freezing and thawing, was unfavorable for meadows. In the Southwest, continued dryness unfavorably affected the range, but in most other portions of the great western grazing districts conditions were favorable, while the generally mild, open weather permitted much grazing in the northern Great Plains. Livestock continued in fair to good condition in most